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C O N F I D E N T I A L SECTION 01 OF 03 TAIPEI 000493

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SUBJECT: TAIWAN'S FLAT-PANEL DISPLAY INDUSTRY - MILESTONES  
AND CONSOLIDATION FOR A MATURING INDUSTRY

REF: A. 06 TAIPEI 4083

[1](#)B. 06 TAIPIE 4029

[1](#)C. 04 TAIPEI 3464

Classified By: AIT Economic Section Chief Daniel K. Moore, Reason 1.4 d

[1](#)1. (SBU) Summary: In 2006, Taiwan's flat-panel display industry earned more than NT\$1 trillion (US\$30 billion) in revenue for the first time and surpassed South Korea in value of large-size TFT-LCD panels. The industry has seen consolidation, most notably last year's acquisition of Quanta Display Inc. by AU Optronics. However, industry leaders say that further consolidation is unlikely and five large players from Taiwan, South Korea and Japan will dominate the global market for the foreseeable future. Investment by foreign suppliers, expansion upstream by panel makers and gains by Taiwan's panel-manufacturing equipment makers have all contributed to a more robust industry cluster in Taiwan. With the emergence of a more mature industry, Taiwan's TFT-LCD industry may see slower growth, but it will continue to provide opportunities for U.S. suppliers like Corning and Applied Materials. End summary.

Reaching Milestones

[1](#)2. (U) Taiwan's TFT-LCD industry achieved two goals in [1](#)2006. According to the government-funded Industrial Technology Research Institute (ITRI), Taiwan's flat-panel display industry earned more than NT\$1 trillion (US\$30 billion) in revenue in the first 10 months of 2006, thus reaching one of the targets of Taiwan's "Two Trillions, Twin Stars" plan. (Note: Taiwan's other "trillion" industry, semiconductors reached the NT\$1 trillion mark in 2004. End note.) By the end of the year Taiwan's flat panel revenues had nearly reached NT\$1.3 trillion (US\$40 billion). TFT-LCD displays account for the vast majority of Taiwan's flat-panel display output. ITRI reported that Taiwan's production value for large-size TFT-LCD panels exceeded that of South Korea for the first time in 2006 marking another milestone. (Note: According to ITRI's data Taiwan's TFT-LCD panel output volume exceeded Korea's in 2005 but not the output value. End note.)

## Consolidating

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¶3. (U) Many analysts had previously identified a need for consolidation among Taiwan's TFT-LCD producers. While the industry in South Korea has been dominated by two major players, Samsung and LG Philips, the field in Taiwan has been more crowded. Taiwan's two largest panel makers are AU Optronics (AUO) and Chi Mei Optronics (CMO) with scales comparable to Samsung and LG Philips. Until recently, Taiwan had three second-tier players with Chunghwa Picture Tubes (CPT), Hannstar and Quanta Display Inc. (QDI) in addition to several smaller players. However, in October 2006, AUO acquired QDI. The combined company could be the largest supplier of TFT-LCD panels in 2007. In addition, Hannstar recently downsized, selling one of its third generation TFT-LCD panel factories to mobile-phone panel maker Wintek. The sale left Hannstar with a single third generation and a fifth generation factory. In its press release announcing the sale, Hannstar said the move would reposition it as a "niche player" in the industry.

¶4. (C) AUO Chairman K.Y. Lee recently told the AIT Director that there would be no more consolidation in the industry, arguing that shareholding structures controlled by families would prevent further mergers. CMO Vice President for Finance and Accounting Eddie Chen echoed Lee in comments to econoff. He said that the TFT-LCD industry was reaching the end of a ten-year stage of early development marked by many competitors and rapid expansion. For the next ten year, Chen believes the global industry will be dominated by five leaders,

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Samsung, LG Philips, AUO, CMO and Sharp, controlling 80 to 85 percent of total panel capacity.

¶5. (C) The industry has also seen consolidation in Mainland China. In January, three of China's largest TFT-LCD manufacturers, Shanghai SVA-NEC Liquid Crystal Display, BOE Optoelectronics Technology, and Info Vision Optronics, announced they would merge into one in late 2007. The Chinese government will be the largest shareholder in the combined firm with a 36-percent stake. CMO's Chen commented that the merger will hurt Taiwan's CPT, which has struggled recently. Last year, CPT suspended plans to build a seventh generation plant and slowed investment in a sixth generation plant.

## Strengthening Local Supply Chains

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¶6. (U) In addition to consolidating, the industry in Taiwan has also seen the development of more closely integrated supply chains within Taiwan, creating a robust TFT-LCD industry cluster. Foreign firms have invested heavily in Taiwan facilities to supply local panel makers. The most striking example is Corning Display Technologies, which has invested more than US\$2.5 billion in large glass substrate facilities in Taichung and Tainan. It is the largest U.S. investor in Taiwan and its facilities here are Corning's largest investment in the world. Corning and Japanese glass makers like Asahi dominate the substrate market in Taiwan and around the world. The last Taiwan substrate maker Picvue Optoelectronics International announced in November 2006 that it was closing down.

¶7. (C) Taiwan panel makers have also moved farther upstream in acquiring and forming partnerships with suppliers. CMO's Chen described his firm's ambitious plans to strengthen its supply chains. He pointed out that CMO had recently acquired a 15-percent stake in Himax, an integrated circuit design firm that is the

world's second largest maker of LCD drivers. He said CMO used to rely on Optimax and Sumitomo for polarizers used in panel production, now it buys more polarizers from its own subsidiary, Chi Mei Materials. Another affiliate, Chi Lin, supplies CMO with back light modules, protective films and other inputs. Chen said that expanding further upstream allows CMO to ensure a secure supply. Technology was skeptical of the plan.

Contrel is an equipment manufacturer 30-percent owned by CMO, but it is not a participant in the consortium. Lee told AIT that Taiwan panel-manufacturing equipment makers still face difficulties because panel manufacturers lack confidence in local firms. He said it is difficult for small firms to compete in the field dominated by Applied Materials of the U.S. and Japan's Nikon.

Comment - A Maturing Industry

19. (SBU) After years of fierce competition and rapid expansion, it appears that the TFT-LCD panel

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manufacturing industry in Taiwan is entering a period of slower growth that favors big players. AUO and CMO have announced capital expenditure plans for the next three years that represent a drop in investment by up to 60 percent. More small Taiwan players may disappear from the scene over the next few years, but Taiwan's big companies should be able to maintain their prominent position in the global market. Even with slower expansion and Taiwan firms strengthening their position in upstream manufacturing, Taiwan will continue to provide opportunities for U.S. firms like Corning and Applied Materials.

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